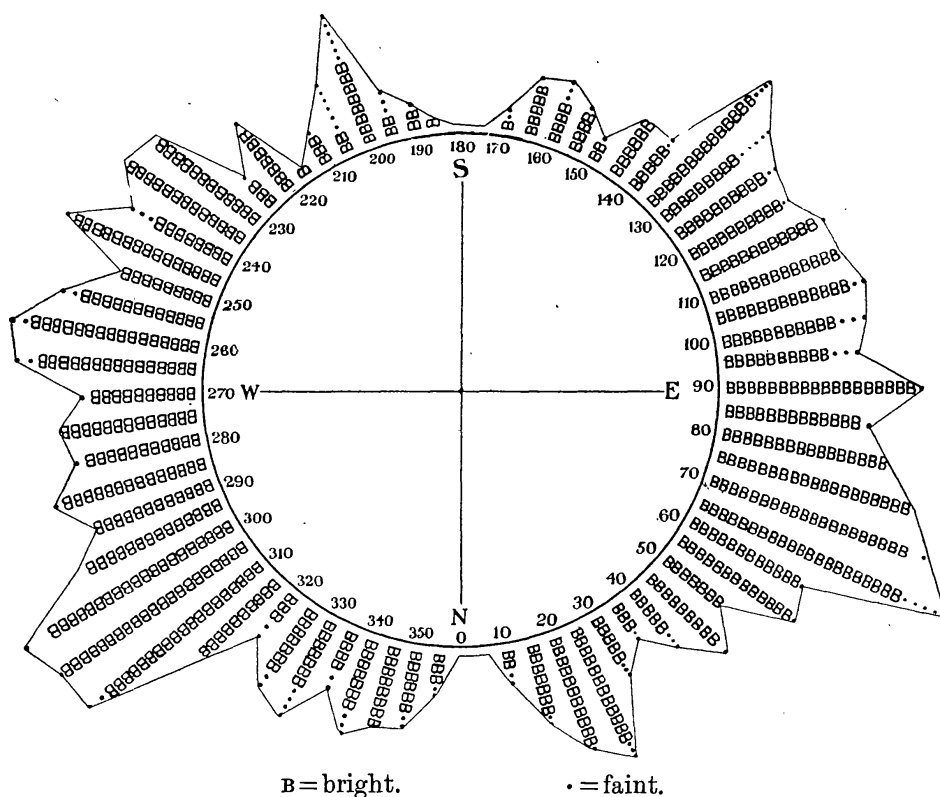


Solar Prominences, 1917. By G. J. Newbegin.

The year 1917 has permitted seventy-eight observations to be made, resulting in a total of 835 prominences being observed and recorded, thus making a mean daily average of 10.7.

From the above total of all prominences a deduction of 227 is necessary before making a diagram in accordance with the scheme of the International Solar Union. This deduction leaves 608 prominences with which to build the diagram now presented.

The number of position angles affected amounts to 760; it will be noticed that the heliographic poles show slight vacancies.



Distribution of Prominences, 1917.

The diagram indicates that the balance of activity is considerably in favour of the northern hemisphere, while west and east differ but little. Prominences on the equatorial line have been apportioned equally to north and south, the figures thus being:

| | | |
|------------|------------|--------|
| North, 422 | South, 339 | = 761. |
| East, 384 | West, 377 | = 761. |

The 608 prominences from which the diagram is built up give an average height of 44".7.

Dark absorption was noticed on forty-three occasions; 39 on bright and 4 on faint prominences, sometimes at considerable elevation.

Observations of Encke's Comet (1917 c) made with the 28-inch Equatorial at the Royal Observatory, Greenwich.

(Communicated by the Astronomer Royal.)

| G.M.T. | R.A. | | | Decl. | | | Star. |
|-------------------|---------|-----------------|-------------------------|---------|-----------------|-------------------------|----------|
| | Comet-* | Corr. for Refr. | Log Factor of Parallax. | Comet-* | Corr. for Refr. | Log Factor of Parallax. | |
| 1918 d h m s | s | s | | | | | |
| Mar. 1 7 27 47.74 | +61.11 | -0.03 | 9.5682 | " | " | ... | <i>a</i> |
| 7 37 28.94 | ... | ... | ... | -132.3 | -7 | 0.8248 | <i>a</i> |
| 7 47 38.37 | -78.55 | -15 | 9.5702 | ... | ... | ... | <i>b</i> |

Places of Comparison Stars.

| Star. | Name. | Mag. | R.A. 1918.0. | Decl. 1918.0. | Reduction to Apparent Place. | Authority |
|----------|------------|------|--------------|---------------|------------------------------|-------------------|
| | | | h m s | ° ' " | s " | |
| <i>a</i> | B.D.+10.65 | 7.3 | 0 33 2.19 | N. 10 59 7.68 | +0.51 +4.67 | Leipzig A.G. Cat. |
| <i>b</i> | B.D.+10.70 | 7.3 | 0 35 23.80 | 11 4 55.89 | +0.52 +4.71 | „ „ |

The comparisons of R.A. were made by taking transits over a pair of wires in the north and south direction, those of Declination by successive bisections of star and comet by a micrometer wire at right angles to the former. There were 12 comparisons with star *a* in R.A., 20 in Declination, and 4 with star *b* in R.A.

The comet appeared as a circular diffused mass, about 2' in diameter, with no definite condensation or nucleus. Measures were therefore made with difficulty, the estimated centre of the nebulosity being observed.

Taking the value of log Δ as 0.0920, and reducing the observations to G.M.T. 7^h 37^m 28^s.94, the rate of motion in R.A. being taken as +0.57 in 6 minutes, the apparent place of the comet (corrected for parallax) at this time is

| | | | | |
|-----------|----------|----------------|----------|------------|
| | | h m s | | ° ' " |
| From star | <i>a</i> | R.A. 0 34 4.98 | N. Decl. | 10 57 4.77 |
| „ | <i>b</i> | R.A. 0 34 4.95 | | |

Assuming that Mr. Viljev's elements (see *M.N.*, 78, 292) are all correct except T, the time of perihelion passage, the value of T deduced from these observations is 1918 March 24.295 G.M.T., which is 0.018 less than Viljev's value. The small residual, and the fact that R.A. and Declination give nearly the same result, indicate that all his elements are close to the truth.

The observations were made by Mr. R. Jonckheere.

Royal Observatory, Greenwich :
March 8, 1918.